#### SEQUENCE LISTING

<110> CHOE, Mu-Hyeon CHOI, Seong-Hyeok LEE, Yong-Chan KWON, Hye-Won WON, Jae-Seon YU, Mi-Hyun SONG, Jeong-Hwa KIM, Yong-Jae

<120> The Dimer of Chimeric Recombinant Binding Domain-Functional Group Fusion formed via Disulfide-bond-bridge and The Process For Producing The Same

<130> 428,1060

<150> PCT/KR2004/001595

<151> 2004-06-30

<150> KR2003-0043599 <151> 2003-06-30

<160> 13

<170> KopatentIn 1.71

<210> 1 <211> 1749

<212> DNA <213> pMC74 plasmid coding sequence

<400> atggatgtga agctggtgga atctggagga ggcttagtgc agcctggagg gtccctgaaa 60 ctctcctqtq caacctctqq attcactttc aqtqactatt acatqtattq qqttcqccaq 120 acticiagada agaggitgga gigggitgga tacattagia aigaigatag ticcgccgct 180 240 tattcagaca ctgtaaaggg ccggttcacc atctccagag acaatgccag gaacaccctc tacctgcaaa tgagccgtct gaagtctgag gacacagcca tatattcctg tgcaagagga 300 ctggcctggg gagcctggtt tgcttactgg ggccaaggga ctctggtcac tgtctctgca 360 gccaaaacga cacccccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac 420 tccatggtga ccctgggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc 480 tggaactctg gatccctgtc cagcggtgtg cacaccttcc cagctgtcct gcagtctgac 540 ctctacactc tgagcagetc agtgactgtc ccctccagca cctggcccag cgagaccgtc 600 acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg 660 gattgtggta gtaagcctag cataagtaca aaagcttccg gaggtcccga gggcggcagc 720 ctggcgggg tgaccgcgca ccaggcttgc cacctgccgc tggagacttt cacccgtcat 780 coccaocego ocogetogga acaactogag cagtocoget atcoggtoca geogetogte 840 gccctctacc tggcggcgcg gctgtcgtgg aaccaggtcg accaggtgat ccgcaacgcc 900 ctggccagcc ccggcagcgg cggcgacctg ggcgaagcga tccgcgagca gccggagcag 960

Page 1

gcccgtctgg	ccctgaccct	ggccgccgcc	gagagcgagc	gcttcgtccg	gcagggcacc	1020
ggcaacgacg	aggccggcgc	ggccaacggc	ccggcggaca	gcggcgacgc	cctgctggag	1080
cgcaactatc	ccactggcgc	ggagttcctc	ggcgacggcg	gcgacgtcag	cttcagcacc	1140
cgcggcacgc	agaactggac	ggtggagcgg	ctgctccagg	cgcaccgcca	actggaggag	1200
cgcggctatg	tgttcgtcgg	ctaccacggc	accttcctcg	aagcggcgca	aagcatcgtc	1260
ttcggcgggg	tgcgcgcgcg	cagccaggac	ctcgacgcga	tctggcgcgg	tttctatatc	1320
gccggcgatc	cggcgctggc	ctacggctac	gcccaggacc	aggaacccga	cgcacgcggc	1380
cggatccgca	acggtgccct	gctgcgggtc	tatgtgccgc	gctcgagcct	gccgggcttc	1440
taccgcacca	gcctgaccct	ggccgcgccg	gaggcggcgg	gcgaggtcga	acggctgatc	1500
ggccatccgc	tgccgctgcg	cctggacgcc	atcaccggcc	ccgaggagga	aggcgggcgc	1560
ctggagacca	ttctcggctg	gccgctggcc	gagcgcaccg	tggtgattcc	ctcggcgatc	1620
cccaccgacc	cgcgcaacgt	cggcggcgac	ctcgacccgt	ccagcatccc	cgacaaggaa	1680
caggcgatca	gcgccctgcc	ggactacgcc	agccagcccg	gcaaaccgcc	gcgcgaggac	1740
ctgaagtaa						1749

<210> 2 <211> 1764 <212> DNA

<213> pMH21 plasmid coding sequence

<400> atggaggtga agctggtgga atctggagga ggcttagtgc agcctggagg gtccctgaaa 60 ctctcctgtg caacctctgg attcactttc agtgactatt acatgtattg ggttcgccag 120 actccagaga agaggctgga gtgggtcgca tacattagta atgatgatag ttccgccgct 180 tattcagaca ctgtaaaggg ccggttcacc atctccagag acaatgccag gaacaccctc 240 300 tacctgcaaa tgagccgtct gaagtctgag gacacagcca tatattcctg tgcaagagga ctggcctggg gagcctggtt tgcttactgg ggccaaggga ctctggtcac tgtctctgca 360 420 gccaaaacga cacccccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac tccatggtga ccctgggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc 480 tggaactctg gatccctgtc cagcggtgtg cacaccttcc cagctgtcct gcagtctgac 540 ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc 600 acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg 660 gattgtggta gtaagccttg cataagtaCa aaagcttctg gtggtggcgg atctggaggt 720 cccgagggcg gcagcctggc cgcgctgacc gcgcaccagg cttgccacct gccgctggag 780 actttcaccc gtcatcgcca gccgcgggc tgggaacaac tggagcagtg cggctatccg 840 Page 2

gtgcagcggc	tggtcgccct	ctacctggcg	gcgcggctgt	cgtggaacca	ggtcgaccag	900
gtgatccgca	acgccctggc	cagccccggc	agcggcggcg	acctgggcga	agcgatccgc	960
gagcagccgg	agcaggccc <b>g</b>	tctggccctg	accctggccg	ccgccgagag	cgagcgcttc	1020
gtccggcagg	gcaccggcaa	cgacgaggcc	ggcgcggcca	acggcccggc	ggacagcggc	1080
gacgccctgc	tggagcgcaa	ctatcccact	ggcgcggagt	tcctcggcga	cggcggcgac	1140
gtcagcttca	gcacccgcgg	cacgcagaac	tggacggtgg	agcggctgct	ccaggcgcac	1200
cgccaactgg	aggagcgcgg	ctatgtgttc	gtcggctacc	acggcacctt	cctcgaagcg	1260
gcgcaaagca	tcgtcttcgg	cggggtgcgc	gcgcgcagcc	aggacctcga	cgcgatctgg	1320
cgcggtttct	atatcgccgg	cgatccggcg	ctggcctacg	gctacgccca	ggaccaggaa	1380
cccgacgcac	gcggccggat	ccgcaacggt	gccctgctgc	gggtctatgt	gccgcgctcg	1440
agcctgccgg	gcttctaccg	caccagcctg	accctggccg	cgccggaggc	ggcgggcgag	1500
gtcgaacggc	tgatcggcca	tccgctgccg	ctgcgcctgg	acgccatcac	cggccccgag	1560
gaggaaggcg	ggcgcctgga	gaccattctc	ggctggccgc	tggccgagcg	caccgtggtg	1620
attccctcgg	cgatccccac	cgacccgcgc	aacgtcggcg	gcgacctcga	cccgtccagc	1680
atccccgaca	aggaacaggc	gatcagcgcc	ctgccggact	acgccagcca	gcccggcaaa	1740
ccgccgcgcg	aggacctgaa	gtaa				1764

<210> 3 <211> 1749 <212> DNA <213> DCE2 plasm

pCE2 plasmid coding sequence

<400> atggatgtga agctggtgga atctggagga ggcttagtgc agcctggagg gtccctgaaa 60 120 ctctcctqtq caacctctqq attcactttc agtgactatt acatgtattq ggttcgccag 180 actccagaga agaggctgga gtgggtcgca tacattagta atgatgatag ttccgccgct tattcagaca ctgtaaaggg ccggttcacc atctccagag acaatgccag gaacaccctc 240 300 taccigcaaa tgagccgici gaagtcigag gacacagcca tatattccig igcaagagga ctggcctggg gagcctggtt tgcttactgg ggccaaggga ctctggtcac tgtctctgca 360 gccaaaacga cacccccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac 420 480 tocatggtga coctgggatg cotggtcaag ggctatttcc otgagccagt gacagtgacc tggaactctg gatccctgtc cagcggtgtg cacaccttcc cagctgtcct gcagtctgac 540 ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag cgagaccgtc 600 acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg 660 gattgtggta gtaagccttg cataagtaca aaagcttccg gaggtcccga gggcggcagc Page 3

ctggccgcgc	tgaccgc <b>gca</b>	ccaggcttgc	cacctgccgc	tggagacttt	cacccgtcat	780
cgccagccgc	gcggctggga	acaactggag	cagtgcggct	atccggtgca	gcggctggtc	840
gccctctacc	tggcggcgcg	gctgtcgtgg	aaccaggtcg	accaggtgat	ccgcaacgcc	900
ctggccagcc	ccggcagcgg	cggcgacctg	ggcgaagcga	tccgcgagca	gccggagcag	960
gcccgtctgg	ccctgaccct	ggccgccgcc	gagagcgagc	gcttcgtccg	gcagggcacc	1020
ggcaacgacg	aggccggcg <b>c</b>	ggccaacggc	ccggcggaca	gcggcgacgc	cctgctggag	1080
cgcaactatc	ccactggcgc	ggagttcctc	ggcgacggcg	gcgacgtcag	cttcagcacc	1140
cgcggcacgc	agaactggac	ggtggagcgg	ctgctccagg	cgcaccgcca	actggaggag	1200
cgcggctatg	tgttcgtcgg	ctaccacggc	accttcctcg	aagcggcgca	aagcatcgtc	1260
ttcggcgggg	tgcgcgcgcg	cagccaggac	ctcgacgcga	tctggcgcgg	tttctatatc	1320
gccggcgatc	cggcgctggc	ctacggctac	gcccaggacc	aggaacccga	cgcacgcggc	1380
cggatccgca	acggtgccct	gctgcgggtc	tatgtgccgc	gctcgagcct	gccgggcttc	1440
taccgcacca	gcctgaccct	ggccgcgccg	gaggcggcgg	gcgaggtcga	acggctgatc	1500
ggccatccgc	tgccgctgcg	cctggacgcc	atcaccggcc	ccgaggagga	aggcgggcgc	1560
ctggagacca	ttctcggctg	gccgctggcc	gagcgcaccg	tggtgattcc	ctcggcgatc	1620
cccaccgacc	cgcgcaacgt	cggcggcgac	ctcgacccgt	ccagcatccc	cgacaaggaa	1680
caggcgatca	gcgccctgcc	ggactacgcc	agccagcccg	gcaaaccgcc	gcgcgaggac	1740
ctgaagtaa						1749

<210> 4 <211> 672 <212> DNA

<213> pMC75 plasmid coding sequence

<400> atggatgtgc tgatgaccca gtctccattg agtttacctg tcagtcttgg agatcaagcc 60 tccatctctt gcagatctag tcagatcatt gtacatagta atggaaacac ctatttagaa 120 180 tggtacctgc agaaaccagg ccagtctcca aagctcctga tctacaaagt ttccaaccga 240 ttttctgggg tcccagacag gttcagtggc agtggatcag ggacagattt cacactcaag 300 atcagcagag tggaggctga ggatctggga gtttattact gctttcaagg ttcacatgtt ccattcacgt teggeteggg gacaaagttg gaaataaaac gggetgatgc tgcaccaact 360 420 qtatccatct tcccaccatc cagtgagcag ttaacatctg gaggtgcctc agtcgtgtgc 480 ttcttgaaca acttctaccc caaaqacatc aatgtcaagt ggaagattga tggcagtgaa cgacaaaatg gcgtcctgaa cagttggact gatcaggaca gcaaagacag cacctacagc 540 atgagcagca ccctcacgtt gaccaaggac gagtatgaac gacataacag ctatacctgt 600 Page 4

gaggccacto	acaagacatc	aacttcaccc	attgtcaaga	gcttcaacag	gaatgagtgt	660
g <b>g</b> taaagctt	aa					672
<212> D	454 NA LSC52 plasm	id coding s	equence			
<400> 5 atggatgtga	<b>agc</b> tggt <b>g</b> ga	atctggagga	ggcttagtgc	agcctggagg	gtccctgaaa	60
	caacctctgg				-	120
	agaggctgga					180
	ctgtaaaggg					240
tacctgcaaa	tgagccgtct	gaagtctgag	gacacagcca	tatattcctg	tgcaagagga	300
ctggcctggg	gagcctggtt	tgcttactgg	ggccaaggga	ctctggtcac	tgtctctgca	360
gccaaaacga	cacccccatc	tgtctatcca	ctggcccctg	gatctgctgc	ccaaactaac	420
tccatggtga	ccctgggatg	cctggtcaag	ggctatttcc	ctgagccagt	gacagtgacc	480
tggaactctg	gatccctgtc	cagcggtgtg	cacaccttcc	cagctgtcct	gcagtctgac	540
ctctacactc	tgagcagctc	agtgactgtc	ccctccagca	cctggcccag	cgagaccgtc	600
acctgcaacg	ttgcccaccc	ggccagcagc	accaaggtgg	acaagaaaat	tgtgcccagg	660
gattgtggtg	agcccaaatc	ttgtgacaaa	actcacacat	gcccaccgtg	cccagcacct	720
gaactcctgg	ggggaccgtc	agtcttcctc	ttcccccaa	aacccaagga	caccctcatg	780
atctcccgga	cccctgaggt	cacatgcgtg	gtggtggacg	tgagccacga	agaccctgag	840
gtcaagttca	actggtacgt	ggacggcgtg	gaggtgcata	atgccaagac	aaagccgcgg	900
gaggagcagt	acaacagcac	gtaccgtgtg	gtcagcgtcc	tcaccgtcct	gcaccaggac	960
tggctgaatg	gcaaggagta	caagtgcaag	gtctccaaca	aagccctccc	agcccccatc	1020
gagaaaacca	tctccaaagc	caaagggcag	ccccgagaac	cacaggtgta	caccctgccc	1080
ccatcccggg	atgagctgac	caagaaccag	gtcagcctga	cctgcctggt	caaaggcttc	1140
tatcccagcg	acatcgccgt	ggagtgggag	agcaatgggc	agccggagaa	caactacaag	1200
accacgcctc	ccgtgctgga	ctccgacggc	tccttcttcc	tctacagcaa	gctcaccgtg	1260
gacaaga <b>gca</b>	ggt <b>g</b> gca <b>g</b> ca	ggggaacgtc	ttctcatgct	ccgtgatgca	tgaggctctg	1320
cacaaccact	acacgcagaa	gagcctctcc	ctgtctccgg	gtaaaggcgg	aggcggatcc	1380
ggtggtggc <b>g</b>	gttctaaa <b>gc</b>	ttccggaggt	cccgagggcg	gcagcctggc	<b>cgcgc</b> tgacc	1440
gcgcaccagg	cttgccacct	gccgctggag	actttcaccc	gtcatcgcca	gccgcgcggc	1500
tgggaacaac	tggagcagtg	cggctatccg	gtgcagcggc Page	tggtcgccct S	ctacctggcg	1560

gcgcggctgt	cgtggaacca	ggtcgaccag	gtgatccgca	acgccctggc	cagccccggc	1620
agcgg <b>c</b> ggc <b>g</b>	acctgggcga	agcgatccgc	gagcagccgg	agcaggcccg	tctggccctg	1680
a <b>c</b> cctgg <b>c</b> cg	ccgccgagag	cgagcgcttc	gtccggcagg	gcaccggcaa	cgacgaggcc	1740
ggcgcggcca	acggcccggc	ggacagcggc	gacgccctgc	tggagcgcaa	ctatcccact	1800
ggcgcggagt	tcctcggcga	cggcggcgac	gtcagcttca	gcacccgcgg	cacgcagaac	1860
tggacggtgg	agcggctgct	ccaggcgcac	cgccaactgg	aggagcgcgg	ctatgtgttc	1920
gtcggctacc	acggcacctt	cctcgaagcg	gcgcaaagca	tcgtcttcgg	cggggtgcgc	1980
gcgcgcagcc	aggacctcga	cgcgatctgg	cgcggtttct	atatcgccgg	cgatccggcg	2040
ctggcctacg	gctacgccca	ggaccaggaa	cccgacgcac	gcggccggat	ccgcaacggt	2100
gccctgctgc	gggtctatgt	gccgcgctcg	agcctgccgg	gcttctaccg	caccagcctg	2160
accctggccg	cgccggaggc	ggcgggcgag	gtcgaacggc	tgatcggcca	tccgctgccg	2220
ctgcgcctgg	acgccatcac	cggccccgag	gaggaaggcg	ggcgcctgga	gaccattctc	2280
ggctggccgc	tggccgagcg	caccgtggtg	attccctcgg	cgatccccac	cgacccgcgc	2340
aacgtcggcg	gcgacctcga	cccgtccagc	atccccgaca	aggaacaggc	gatcagcgcc	2400
ctgccggact	acgccagcca	gcccggcaaa	ccgccgcgcg	aggacctgaa	gtaa	2454

<210> 6 <211> 1233 <212> DNA <213> DKL4

pKL4 plasmid coding sequence

<400> atgcatcacc atcaccatca cgatgtgaag ctggtggaat ctggaggagg cttagtgcag 60 cctggagggt ccctgaaact ctcctgtgca acctctggat tcactttcag tgactattac 120 180 atgtattqqq ttcqccagac tccagagaaq aggctggagt gggtcgcata cattagtaat gatgatagtt ccgccgctta ttcagacact gtaaagggcc ggttcaccat ctccagagac 240 aatgccagga acacceteta cetgcaaatg agccgtetga agtetgagga cacagccata 300 360 tattcctgtg caagaggact ggcctgggga gcctggtttg cttactgggg ccaagggact ctggtcactg tctctgcagc caaaacgaca cccccatctg tctatccact ggcccctgga 420 tctgctgccc aaactaactc catggtgacc ctgggatgcc tggtcaaggg ctatttccct 480 540 gagccagtga cagtgacctg gaactctgga tccctgtcca gcggtgtgca caccttccca gctgtcctgc agtctgacct ctacactctg agcagctcag tgactgtccc ctccagcacc 600 tggcccagcg agaccgtcac ctgcaacgtt gcccacccgg ccagcagcac caaggtggac 660 aagaaaattg tgcccaggga ttgtggtgct aagccttgca tagctacaca agcttccggt 720 780 ggtggcggat ctggaggtgg cggaagcgga ggtcccgagg tgacaggggg aatggcaagc Page 6

aagtgggatc ag	aagggtat ggad	attgcc tatgaggag	g cggccttagg	ttacaaagag	840
ggtggtgttc ct	attggcgg atg	cttatc aataacaaa	g acggaagtgt	tctcggtcgt	900
ggtcacaaca tg	agatttca aaaq	ggat <b>c</b> c gccacacta	c atggtgagat	ctccactttg	960
gaaaactgtg gg	agattaga gggd	aaagtg tacaaagat	a ccactttgta	tacgacgctg	1020
tctccatgcg ac	atg <b>tg</b> ta <b>c agg</b> t	gccatc atcatgtat	g gtattccacg	ctgtgttgtc	1080
ggtgagaacg tt	aattt <b>ca</b> a aagt	aagggc gagaaatat	t tacaaactag	aggtcacgag	1140
gttgttgttg tt	gacgatga gagg	tgtaaa aagatcatg	a aacaatttat	cgatgaaaga	1200
cctcaggatt gg	tttgaaga tatt	ggtgag tag			1233

<210> 7 <211> 4871 <212> DNA

<213> pMC74 plasmid full sequence

<400> taatacgact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttaac 60 tttaagaagg agatatacat atggatgtga agctggtgga atctggagga ggcttagtgc 120 agcctggagg gtccctgaaa ctctcctgtg caacctctgg attcactttc agtgactatt 180 acatgtattg ggttcgccag actccagaga agaggctgga gtgggtcgca tacattagta 240 atgatgatag ttccgccgct tattcagaca ctgtaaaggg ccggttcacc atctccagag 300 acaatgccag gaacaccctc tacctgcaaa tgagccgtct gaagtctgag gacacagcca 360 420 tatattcctg tgcaagagga ctggcctggg gagcctggtt tgcttactgg ggccaaggga ctctqqtcac tgtctctqca gccaaaacga caccccatc tgtctatcca ctggcccctq 480 gatctgctgc ccaaactaac tccatggtga ccctgggatg cctggtcaag ggctatttcc 540 ctgagccagt gacagtgacc tggaactctg gatccctgtc cagcggtgtg cacaccttcc 600 660 cagcigicet geagleigae etelacaete igageagete agigaetgie ecetecagea cctggcccag cgagaccgtc acctgcaacg ttgcccaccc ggccagcagc accaaggtgg 780 acaagaaaat tgtgcccagg gattgtggta gtaagcctag cataagtaca aaagcttccg gaggtcccga gggcggcagc ctggccgcgc tgaccgcgca ccaggcttgc cacctgccgc 840 tggagacttt cacccgtcat cgccagccgc gcggctggga acaactggag cagtgcggct 900 atccggtgca gcggctggtc gccctctacc tggcggcgcg gctgtcgtgg aaccaggtcg 960 1020 accaggtgat ccgcaacgcc ctggccagcc ccggcagcgg cggcgacctg ggcgaagcga 1080 tecqcqaqca geeggagcag geeegtetgg eeetgaceet ggeegeegee gagagegage gcttcgtccg gcagggcacc ggcaacgacg aggccggcgc ggccaacggc ccggcggaca 1140 gcggcgacgc cctgctggag cgcaactatc ccactggcgc ggagttcctc ggcgacggcg Page 7 1200

gcgacgtca <b>g</b>	cttcagcacc	cgcggcacgc	agaactggac	ggtggagcgg	ctgctccagg	1260
cgcaccgcca	actggaggag	cgcggctatg	tgttcgtcgg	ctaccacggc	accttcctcg	1320
aagcggcgca	aagcatcgtc	ttcggcgggg	tgcgcgcgcg	cagccaggac	ctcgacgcga	1380
tctggc <b>gcg</b> g	tttctatatc	gccggcgatc	cggcgctggc	ctacggctac	gcccaggacc	1440
aggaacccga	cgcacgcgg <b>c</b>	cggatccgca	acggtgccct	gctgcgggtc	tatgtgccgc	1500
gctcgagcct	gccgggcttc	taccgcacca	gcctgaccct	ggccgcgccg	gaggcggcgg	1560
gcgaggtcga	acggctgatc	ggccatccgc	tgccgctgcg	cctggacgcc	atcaccggcc	1620
ccgaggagga	agg <b>c</b> gggcgc	ctggagacca	ttctcggctg	gccgctggcc	gagcgcaccg	1680
tggtgattcc	ctcggcgatc	cccaccgacc	cgcgcaacgt	cggcggcgac	ctcgacccgt	1740
ccagcatccc	cgacaaggaa	caggcgatca	gcgccctgcc	ggactacgcc	agccagcccg	1800
gcaaaccgcc	gcgcgaggac	ctgaagtaac	tgccgcgacc	ggccggctcc	cttcgcagga	1860
gccggccttc	tcggggcctg	gccatacatc	aggttttcct	gatgccagcc	caatcgaata	1920
tgaattcggc	tgctaacaaa	gcccgaaagg	aagctgagtt	ggctgctgcc	accgctgagc	1980
aataactagc	ataacccctt	gggcctctaa	acgggtcttg	aggggtttt	tgctgaaagg	2040
aggaactata	tccggatcgg	agatcaattc	tggcgtaata	gcgaagaggc	ccgcaccgat	2100
cgcccttccc	aacagttgcg	tagcctgaat	ggcgaatggg	acgcgccctg	tagcggcgca	2160
ttaagcgcgg	cgggtgtggt	ggttacgcgc	agcgtgaccg	ctacacttgc	cagcgcccta	2220
gcgcccgctc	ctttcgcttt	cttcccttcc	tttctcgcca	cgttcgccgg	ctttccccgt	2280
caagctctaa	atcgggggct	ccctttaggg	ttccgattta	gtgctttacg	gcacctcgac	2340
cccaaaaaac	ttgattaggg	tgatggttca	cgtagtgggc	catcgccctg	atagacggtt	2400
tttcgccctt	tgacgttgga	gtccacgttc	tttaatagtg	gactcttgtt	ccaaactgga	2460
acaacactca	accctatctc	ggtctattct	tttgatttat	aagggatttt	gccgatttcg	2520
gcctattggt	taaaaaatga	gctgatttaa	caaaaattta	acgcgaattt	taacaaaata	2580
ttaacgttta	caatttcagg	tggcactttt	cggggaaatg	tgcgcggaac	ccctatttgt	2640
ttatttttct	aaatacattc	aaatatgtat	ccgctcatga	gacaataacc	ctgataaatg	2700
cttcaataat	attgaaaaag	gaagagtatg	agtattcaac	atttccgtgt	cgcccttatt	2760
cccttttttg	cggcattttg	ccttcctgtt	tttgctcacc	cagaaacgct	ggtgaaagta	2820
aaagat <b>gc</b> tg	aagatcagtt	gggtgcacga	gtgggttaca	tcgaactgga	tctcaacagc	2880
ggtaa <b>g</b> atcc	ttgagagttt	tcgccccgaa	gaacgttttc	caatgatgag	cacttttaaa	2940
gttctgctat	gtggcgcggt	attatcccgt	attgacgccg	ggcaagagca	actcggtcgc	3000
cgcatacact	att <b>c</b> tcaga <b>a</b>	tgacttggtt	gagtactcac	cagtcacaga	aaagcatctt	3060

4fpo-8-20-09K sequence.txt acggatggca tgacagtaag agaattatgc agtgctgcca taagcatgag tgataacact 3120 gcggccaact tacttctgac aacgatcgga ggaccgaagg agctaaccgc tttttttcac 3180 aacatggggg atcatgtaac tcgccttgat cgttgggaac cggagctgaa tgaagccata 3240 ccaaacgacg agcgtgacac cacgatgcct gtagcaatgg caacaacgtt gcgcaaacta 3300 3360 ttaactggcg aactacttac tctagcttcc cggcaacaat taatagactg gatggaggcg gataaagttg caggaccact tctgcgctcg gcccttccgg ctggctggtt tattgctgat 3420 aaatctggag ccggtgagcg tgggtctcgc ggtatcattg cagcactggg gccagatggt 3480 3540 aagccctccc gtatcgtagt tatctacacg acgggcagtc aggcaactat ggatgaacga aatagacaga togotgagat aggtgootca otgattaago attggtaact gtoagaccaa 3600 3660 3720 gtgaagatcc tttttgataa tctcatgacc aaaatccctt aacgtgagtt ttcgttccac 3780 tgagcgtcag accccgtaga aaagatcaaa ggatcttctt gagatccttt ttttctgcgc 3840 gtaatctgct gcttgcaaac aaaaaaacca ccgctaccag cggtggtttg tttgccggat caagagctac caactctttt tccgaaggta actggcttca gcagagcgca gataccaaat 3900 3960 actgtccttc tagtgtagcc gtagttaggc caccacttCa agaactctgt agcaccgcct acatacctcg ctctgctaat cctgttacca gtggctgctg ccagtggcga taagtcgtgt 4020 cttaccgggt tggactcaag acgatagtta ccggataagg cgcagcggtc gggctgaacg 4080 4140 gggggttcgt gcacacagcc cagcttggag cgaacgacct acaccgaact gagataccta cagcgtgagc attgagaaag cgccacgctt cccgaaggga gaaaggcgga caggtatccg 4200 4260 gtaagcggca gggtcggaac aggagagcgc acgagggagc ttccaggggg gaacgcctgg tatctttata gtcctgtcgg gtttcgccac ctctgacttg agcgtcgatt tttgtgatgc 4320 tcgtcagggg ggccgagcct atggaaaaac gccagcaacg cggccttttt acggttcctg 4380 4440 gccttttgct ggccttttgc tcacatgttc tttcctgcgt tatcccctga ttctgtggat aaccgtatta ccgcctttga gtgagctgat accgctcgcc gcagccgaac gaccgagcgc 4500 4560 agcgagtcag tgagcgagga agcggaagag cgcctgatgc ggtattttct ccttacgcat 4620 ctgtgcggta tttcacaccg catatatggt gcactctcag tacaatctgc tctgatgccg catagitaag ccagitataca ciccgctatc gctacgigac igcaaggaga iggcgcccaa 4680 cagtoccccg gccacggggc ctgccaccat acccacgccg aaacaagcgc tcatgagccc 4740 4800 gaagtggcga gcccgatctt ccccatcggt gatgtcggcg atataggcgc cagcaaccgc acctgtggcg ccggtgatgc cggccacgat gcgtccggcg tagaggatct tgagatctcg 4860

atccgcgaaa t

4871

<210> 8 <211> 4886

<212> DNA <213> pMH21 plasmid full sequence

<400> 8

taatacqact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttaac 60 tttaagaagg agatatacat atggaggtga agctggtgga atctggagga ggcttagtgc 120 180 agcctggagg gtccctgaaa ctctcctgtg caacctctgg attcactttc agtgactatt 240 acatqtattq qqttcqccaq actccagaga aqaggctgga gtgggtcgca tacattaqta atgatgatag ttccgccgct tattcagaca ctgtaaaggg ccggttcacc atctccagag 300 acaatoccao gaacaccctc tacctocaaa tgagccotct gaagtctgag gacacagcca 360 420 tatattcctg tgcaagagga ctggcctggg gagcctggtt tgcttactgg ggccaaggga ctctggtcac tgtctctgca gccaaaacga cacccccatc tgtctatcca ctggcccctg 480 gatetgetge ccaaactaac tecatggtga ceetgggatg cetggteaag ggetatttee 540 ctgagccagt gacagtgacc tggaactctg gatccctgtc cagcggtgtg cacaccttcc 600 cagcigicet geagicigae etclacacte igageagete agigacigie ecciceagea 660 cctqqcccaq cqaqaccqtc acctqcaacq ttqcccaccc qqccaqcaqc accaaqqtqq 720 780 acaagaaaat tgtgcccagg gattgtggta gtaagccttg cataagtaca aaagcttctg 840 qtggtggcqg atctggaggt cccgagggcg gcagcctggc cgcgctgacc gcgcaccagg cttqccacct qccqctqqaq actttcaccc gtcatcgcca gccgcgcggc tgggaacaac 900 tggagcagtg cggctatccg gtgcagcggc tggtcgccct ctacctggcg gcgcggctgt 960 cgtggaacca ggtcgaccag gtgatccgca acgccctggc cagccccggc agcggcqqcq 1020 acctgggcga agcgatccgc gagcagccgg agcaggcccg tctggccctg accctggccg 1080 ccgccgagag cgagcgcttc gtccggcagg gcaccggcaa cgacgaggcc ggcgcggcca 1140 acggcccggc ggacagcggc gacgccctgc tggagcgcaa ctatcccact ggcgcggagt 1200 tcctcggcga cggcggcgac gtcagcttca gcacccgcgg cacgcagaac tggacggtgg 1260 1320 agcqqctqct ccagqcqcac cqccaactqg aggaqcqcqq ctatqtqttc gtcgqctacc acqueactt cotoquagog gogcauagou togtottogg cggggtgogc gcgcqcagco 1380 aggacctcga cgcgatctgg cgcggtttct atatcgccgg cgatccggcg ctggcctacg 1440 1500 gctacgccca ggaccaggaa cccgacgcac gcggccggat ccgcaacggt gccctgctgc agatetatat accapacted adectaced acttaced caccadett accetageed 1560 coccopage ogcopecaa gtcpaacogc tgatcggcca tccgctgccq ctgcgcctgg 1620 1680 acqccatcac cggccccgag gaggaaggcg ggcgcctgga gaccattctc ggctggccgc tagccqaqcq caccqtqqtq attccctcqq cqatccccac cqacccqcqc aacqtcqqcq 1740

Page 10

gcgacctc	ga cccgtccagc	atccccgaca	aggaacaggc	gatcagcgcc	ctgccggact	1800
a <b>c</b> gccagc	ca gcccggca <mark>aa</mark>	ccgccgcgcg	aggacctgaa	gtaactgccg	cgaccggccg	1860
gctccctt	cg caggagccgg	ccttctcggg	gcctggccat	acatcaggtt	ttcctgatgc	1920
ca <b>g</b> cc <b>c</b> aa	tc gaatatgaat	tcggctgcta	acaaagcccg	aaaggaagct	gagttggctg	1980
ctgccacc	gc tgagcaataa	ctagcataac	cccttgggcc	tctaaacggg	tcttgagggg	2040
ttttttgc	tg aaaggaggaa	ctatatccgg	atcggagatc	aattctggcg	taatagcgaa	2100
gaggcccg	ca c <b>cga</b> tcgccc	ttcccaacag	ttgcgtagcc	tgaatggcga	atgggacgcg	2160
ccctgtage	cg gcgcattaag	cgcggcgggt	gtggtggtta	cgcgcagcgt	gaccgctaca	2220
cttgccage	cg ccctagcgcc	cgctcctttc	gctttcttcc	cttcctttct	cgccacgttc	2280
g <b>ccg</b> gctt1	c cccgtcaagc	tctaaatcgg	gggctccctt	tagggttccg	atttagtgct	2340
ttacggcad	c tcgaccccaa	aaaacttgat	tagggtgatg	gttcacgtag	tgggccatcg	2400
ccctgatag	ga cggtttttcg	ccctttgacg	ttggagtcca	cgttctttaa	tagtggactc	2460
ttgttccaa	a ctggaacaac	actcaaccct	atctcggtct	attcttttga	tttataaggg	2520
attttgccg	ga tttcggccta	ttggttaaaa	aatgagctga	tttaacaaaa	atttaacgcg	2580
aattttaad	a aaatattaac	gtttacaatt	tcaggtggca	cttttcgggg	aaatgtgcgc	2640
ggaacccct	a tttgtttatt	tttctaaata	cattcaaata	tgtatccgct	catgagacaa	2700
taaccctga	it aaatgcttca	ataatattga	aaaaggaaga	gtatgagtat	tcaacatttc	2760
cgtgtcgcc	c ttattccctt	ttttgcggca	ttttgccttc	ctgtttttgc	tcacccagaa	2820
acgctggtg	a aagtaaaaga	tgctgaagat	cagttgggtg	cacgagtggg	ttacatcgaa	2880
ctggatctc	a acagcggtaa	gatccttgag	agttttcgcc	ccgaagaacg	ttttccaatg	2940
atgagcact	t ttaaagttct	gctatgtggc	gcggtattat	cccgtattga	cgccgggcaa	3000
gagcaacto	g gtcgccgcat	acactattct	cagaatgact	tggttgagta	ctcaccagtc	3060
acagaaaag	c atcttacgga	tggcatgaca	gtaagagaat	tatgcagtgc	tgccataagc	3120
atgagtgat	a acactgcggc	caacttactt	ctgacaacga	tcggaggacc	gaaggagcta	3180
accgctttt	t ttcacaacat	gggggatcat	gtaactcgcc	ttgatcgttg	ggaaccggag	3240
ctgaatgaa	g ccatacc <b>aa</b> a	cgacgagcgt	gacaccacga	tgcctgtagc	aatggcaaca	3300
acgttgcgc	a aactattaac	tggcgaacta	cttactctag	cttcccggca	acaattaata	3360
gactggatg	g aggcggataa	agttgcagga	ccacttctgc	gctcggccct	tccggctggc	3420
tggtttatt	g ctgataaatc	tggagccggt	gagcgtgggt	ctcgcggtat	cattgcagca	3480
ctggggcca	g atggtaagcc	ctcccgtatc	gtagttatct	acacgacggg	cagtcaggca	3540
actatggat	g a <b>acg</b> aaata <b>g</b>	acagatcgct	gagataggtg	cctcactgat	taagcattgg	3600

		_				
taactgtcag	accaagttta		o-8-20-09k ctttagattg		t tcatttttaa	3660
tttaaaagga	tctaggtgaa	gatcctttt	gataatctca	tgaccaaaat	cccttaacgt	3720
gagttttcgt	tccactgagc	gtcagacccc	gtagaaaaga	tcaaaggatc	ttcttgagat	3780
cctttttttc	t <b>gc</b> gcgtaat	ctgctgcttg	caaacaaaaa	aaccaccgct	accagcggtg	3840
gtttgtttgc	cggatcaaga	gctaccaact	ctttttccga	aggtaactgg	cttcagcaga	3900
gcgcagatac	caaatactgt	ccttctagtg	tagccgtagt	taggccacca	cttcaagaac	3960
tctgtagcac	cgcctacata	cctcgctctg	ctaatcctgt	taccagtggc	tgctgccagt	4020
ggcgataagt	cgtgtcttac	cgggttggac	tcaagacgat	agttaccgga	taaggcgcag	4080
cggtcgggct	gaacgggggg	ttcgtgcaca	cagcccagct	tggagcgaac	gacctacacc	4140
gaactgagat	acctacagcg	tgagcattga	gaaagcgcca	cgcttcccga	agggagaaag	4200
gcggacaggt	atccggtaag	cggcagggtc	ggaacaggag	agcgcacgag	ggagcttcca	4260
ggggggaacg	cctggtatct	ttatagtcct	gtcgggtttc	gccacctctg	acttgagcgt	4320
cgatttttgt	gatgctcgtc	aggggggccg	agcctatgga	aaaacgccag	caacgcggcc	4380
tttttacggt	tcctggcctt	ttgctggcct	tttgctcaca	tgttctttcc	tgcgttatcc	4440
cctgattctg	tggataaccg	tattaccgcc	tttgagtgag	ctgataccgc	tcgccgcagc	4500
cgaacgaccg	agcgcagcga	gtcagtgagc	gaggaagcgg	aagagcgcct	gatgcggtat	4560
tttctcctta	cgcatctgtg	cggtatttca	caccgcatat	atggtgcact	ctcagtacaa	4620
tctgctctga	tgccgcatag	ttaagccagt	atacactccg	ctatcgctac	gtgactgcaa	4680
ggagatggcg	cccaacagtc	ccccggccac	ggggcctgcc	accataccca	cgccgaaaca	4740
agcgctcatg	agcccgaagt	ggcgagcccg	atcttcccca	tcggtgatgt	cggcgatata	4800
ggcgccagca	accgcacctg	tggcgccggt	gatgccggcc	acgatgcgtc	cggcgtagag	4860
gatcttgaga	tctcgatccg	cgaaat				4886
<212> DN		full sequer	oce			
	cactataggg	agaccacaac	ggtttccctc	tagaaataat	tttgtttaac	60
tttaa <b>ga</b> agg	<b>a</b> gatatacat	atggatgtga	agctggtgga	atctggagga	ggcttagtgc	120
agcctggagg	gtccctgaaa	ctctcctgtg	caacctctgg	attcactttc	agtgactatt	180
acatgtattg	ggttcgccag	actccagaga	agaggctgga	gtgggtcgca	tacattagta	240
atgatgat <b>ag</b>	ttccgccgct	tattcagaca	ctgtaaaggg	ccggttcacc	atctccagag	300
acaatgccag	gaacaccctc	tacctgcaaa	tgagccgtct	gaagtctgag	gacacagcca	360

		4fn	о-8-20-09к	sequence.tx	t	
tatattcctg	tgcaagagga			tgcttactgg		420
ctctggtcac	tgtctctgca	gccaaaacga	cacccccatc	tgtctatcca	ctggcccctg	480
gatctgctgc	ccaaactaac	tccatggtga	ccctgggatg	cctggtcaag	ggctatttcc	540
ctgagccagt	gacagtgacc	tggaactctg	gatccctgtc	cagcggtgtg	cacaccttcc	600
cagctgtcct	gcagtctgac	ctctacactc	tgagcagctc	agtgactgtc	ccctccagca	660
cctggcccag	cgagaccgtc	acctgcaacg	ttgcccaccc	ggccagcagc	accaaggtgg	720
acaagaaaat	tgtgcccagg	gattgtggta	gtaagccttg	cataagtaca	aaagcttccg	780
gaggtcccga	gggcggcagc	ctggccgcgc	tgaccgcgca	ccaggcttgc	cacctgccgc	840
tggagacttt	cacccgtcat	cgccagccgc	gcggctggga	acaactggag	cagtgcggct	900
atccggtgca	gcggctggtc	gccctctacc	tggcggcgcg	gctgtcgtgg	aaccaggtcg	960
accaggtgat	ccgcaacgcc	ctggccagcc	ccggcagcgg	cggcgacctg	ggcgaagcga	1020
tccgcgagca	gccggagcag	gcccgtctgg	ccctgaccct	ggccgccgcc	gagagcgagc	1080
gcttcgtccg	gcagggcacc	ggcaacgacg	aggccggcgc	ggccaacggc	ccggcggaca	1140
gcggcgacgc	cctgctggag	cgcaactatc	ccactggcgc	ggagttcctc	ggcgacggcg	1200
gcgacgtcag	cttcagcacc	cgcggcacgc	agaactggac	ggtggagcgg	ctgctccagg	1260
cgcaccgcca	actggaggag	cgcggctatg	tgttcgtcgg	ctaccacggc	accttcctcg	1320
aagcggcgca	aagcatcgtc	ttcggcgggg	tgcgcgcgcg	cagccaggac	ctcgacgcga	1380
tctggcgcgg	tttctatatc	gccggcgatc	cggcgctggc	ctacggctac	gcccaggacc	1440
aggaacccga	cgcacgcggc	cggatccgca	acggtgccct	gctgcgggtc	tatgtgccgc	1500
gctcgagcct	gccgggcttc	taccgcacca	gcctgaccct	ggccgcgccg	gaggcggcgg	1560
gcgaggtcga	acggctgatc	ggccatccgc	tgccgctgcg	cctggacgcc	atcaccggcc	1620
ccgaggagga	aggcgggcgc	ctggagacca	ttctcggctg	gccgctggcc	gagcgcaccg	1680
tggtgattcc	ctcggcgatc	cccaccgacc	cgcgcaacgt	cggcggcgac	ctcgacccgt	1740
ccagcatccc	cgacaaggaa	caggcgatca	gcgccctgcc	ggactacgcc	agccagcccg	1800
gcaaaccgcc	gcgcgaggac	ctgaagtaac	tgccgcgacc	ggccggctcc	cttcgcagga	1860
gcc <b>ggcc</b> ttc	tcggggcctg	gccatacatc	aggttttcct	gatgccagcc	caatcgaata	1920
<b>tg</b> aattcgg <b>c</b>	tg <b>cta</b> acaaa	gcccgaaagg	aagctgagtt	ggctgctgcc	accgctgagc	1980
aataactagc	ataacccctt	gggcctctaa	acgggtcttg	aggggttttt	tgctgaaagg	2040
aggaactata	tccggatcgg	agatcaattc	tggcgtaata	gcgaagaggc	ccgcaccgat	2100
cg <b>c</b> ccttccc	aacagttgcg	tagcctgaat	ggcgaatggg	acgcgccctg	tagcggcgca	2160
ttaagcgcgg	rgggtgtggt	ggttacgcgc	agcgtgaccg	ctacacttgc	cagcgcccta	2220
gcgcccgctc	ctttcgcttt	cttcccttcc	tttctcgcca Page	cgttcgccgg 13	ctttccccgt	2280

caagctctaa	atcg <b>ggg</b> gct	ccctttaggg	ttccgattta	gtgctttacg	gcacctcgac	2340
cccaaaaaac	ttgattaggg	tgatggttca	cgtagtgggc	catcgccctg	atagacggtt	2400
tttcgccctt	tgacgttgga	gtccacgttc	tttaatagtg	gactcttgtt	ccaaactgga	2460
a <b>c</b> aacactca	accctatctc	ggtctattct	tttgatttat	aagggatttt	gccgatttcg	2520
gcctattggt	taaaaaatga	gctgatttaa	caaaaatta	acgcgaattt	taacaaaata	2580
tt <b>aa</b> cgttta	caatttcagg	tggcactttt	cggggaaatg	tgcgcggaac	ccctatttgt	2640
ttatttttct	aaatacattc	aaatatgtat	ccgctcatga	gacaataacc	ctgataaatg	2700
cttcaataat	attgaaaaag	gaagagtatg	agtattcaac	atttccgtgt	cgcccttatt	2760
ccctttttg	cggcattttg	ccttcctgtt	tttgctcacc	cagaaacgct	ggtgaaagta	2820
aaagatgctg	aagatcagtt	gggtgcacga	gtgggttaca	tcgaactgga	tctcaacagc	2880
ggtaagatcc	ttgagagttt	tcgccccgaa	gaacgttttc	caatgatgag	cacttttaaa	2940
gttctgctat	gtggcgcggt	attatcccgt	attgacgccg	ggcaagagca	actcggtcgc	3000
cgcatacact	attctcagaa	tgacttggtt	gagtactcac	cagtcacaga	aaagcatctt	3060
acggatggca	tgacagtaag	agaattatgc	agtgctgcca	taagcatgag	tgataacact	3120
gcggccaact	tacttctgac	aacgatcgga	ggaccgaagg	agctaaccgc	tttttttcac	3180
aacatggggg	atcatgtaac	tcgccttgat	cgttgggaac	cggagctgaa	tgaagccata	3240
ccaaacgacg	agcgtgacac	cacgatgcct	gtagcaatgg	caacaacgtt	gcgcaaacta	3300
ttaactggcg	aactacttac	tctagcttcc	cggcaacaat	taatagactg	gatggaggcg	3360
gataaagttg	caggaccact	tctgcgctcg	gcccttccgg	ctggctggtt	tattgctgat	3420
aaatctggag	ccggtgagcg	tgggtctcgc	ggtatcattg	cagcactggg	gccagatggt	3480
aagccctccc	gtatcgtagt	tatctacacg	acgggcagtc	aggcaactat	ggatgaacga	3540
aatagacaga	tcgctgagat	aggtgcctca	ctgattaagc	attggtaact	gtcagaccaa	3600
gtttactcat	atatacttta	gattgattta	aaacttcatt	tttaatttaa	aaggatctag	3660
gtgaagatcc	tttttgataa	tctcatgacc	aaaatccctt	aacgtgagtt	ttcgttccac	3720
tgagcgtcag	accccgtaga	aaagatcaaa	ggatcttctt	gagatccttt	ttttctgcgc	3780
gtaatctgct	gcttgcaaac	aaaaaacca	ccgctaccag	cggtggtttg	tttgccggat	3840
caagagctac	caactcttt	tccgaaggta	actggcttca	gcagagcgca	gataccaaat	3900
a <b>c</b> tgtccttc	tagtgtagcc	gtagttaggc	caccacttca	agaactctgt	agcaccgcct	3960
acatacctcg	ctctgctaat	cctgttacca	gtggctgctg	ccagtggcga	taagtcgtgt	4020
cttaccgggt	tggactcaag	acgātagtta	ccggataagg	cgcagcggtc	gggctgaacg	4080
gggggttcgt	gcacacagcc	cagcttggag	cgaacgacct	acaccgaact	gagataccta	4140

4fpo-8-20-09K sequence.txt cagcgigagc attgagaaag cgccacgctt cccgaaggga gaaaggcgga caggtatccg	4200
gtaagcggca gggtcggaac aggagagcgc acgagggagc ttccaggggg gaacgcctgg	4260
tatctttata gtcctgtcgg gtttcgccac ctctgacttg agcgtcgatt tttgtgatgc	4320
tcgtcagggg ggccgagcct atggaaaaac gccagcaacg cggccttttt acggttcctg	4380
gccttttgct ggccttttgc tcacatgttc tttcctgcgt tatcccctga ttctgtggat	4440
aaccgtatta ccgcctttga gtgagctgat accgctcgcc gcagccgaac gaccgagcgc	4500
agcgagtcag tgagcgagga agcggaagag cgcctgatgc ggtatttct ccttacgcat	4560
ctgtgcggta tttcacaccg catatatggt gcactctcag tacaatctgc tctgatgccg	4620
catagttaag ccagtataca ctccgctatc gctacgtgac tgcaaggaga tggcgcccaa	4680
cagtcccccg gccacggggc ctgccaccat acccacgccg aaacaagcgc tcatgagccc	4740
gaagtggcga gcccgatctt ccccatcggt gatgtcggcg atataggcgc cagcaaccgc	4800
acctgtggcg ccggtgatgc cggccacgat gcgtccggcg tagaggatct tgagatctcg	4860
atccgcgaaa t	4871
<pre>&lt;210&gt; 10 &lt;211&gt; 3703 &lt;211&gt; DNA &lt;212&gt; DNA &lt;213&gt; pMC75 plasmid full sequence &lt;440&gt; 10</pre>	
taatacgact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttaac	60
tttaagaagg agatatacat atggatgtgc tgatgaccca gtctccattg agtttacctg	120
tcagtcttgg agatcaagcc tccatctctt gcagatctag tcagatcatt gtacatagta	180
atggaaacac ctatttagaa tggtacctgc agaaaccagg ccagtctcca aagctcctga	240
tctacaaagt ttccaaccga ttttctgggg tcccagacag gttcagtggc agtggatcag	300
ggacagattt cacactcaag atcagcagag tggaggctga ggatctggga gtttattact	360
gctttcaagg ttcacatgtt ccattcacgt tcggctcggg gacaaagttg gaaataaaac	420
gggctgatgc tgcaccaact gtatccatct tcccaccatc cagtgagcag ttaacatctg	480
gaggtgcctc agtcgtgtgc ttcttgaaca acttctaccc caaagacatc aatgtcaagt	540
ggaagattga tggcagtgaa cgacaaaatg gcgtcctgaa cagttggact gatcaggaca	600
gcaaagacag cacctacagc atgagcagca ccctcacgtt gaccaaggac gagtatgaac	660
gacataacag ctatacctgt gaggccactc acaagacatc aacttcaccc attgtcaaga	720
gcttcaacag gaatgagtgt ggtaaagctt aatgaattcg gctgctaaca aagcccgaaa	
	780
ggaagetgag tiggetgetg ccaccgetga geaataacta geataaccee tigggeetet	780 840

900

aaacgggtct tgaggggttt tttgctgaaa ggaggaacta tatccggatc ggagatcaat

#### 4fpo-8-20-09K sequence.txt tctggcgtaa tagcgaagag gcccgcaccg atcgcccttc ccaacagttg cgtagcctga 960 1020 atggcgaatg ggacgccc tgtagcggcg cattaagcgc ggcgggtgtg gtggttacgc gcagcgtgac cgctacactt gccagcgccc tagcgcccgc tcctttcgct ttcttccctt 1080 1140 cctttctcgc cacgttcgcc ggctttcccc gtcaagctct aaatcggggg ctccctttag ggttccgatt tagtgcttta cggcacctcg accccaaaaa acttgattag ggtgatggtt 1200 cacgtagtgg gccatcgccc tgatagacgg tttttcgccc tttgacgttg gagtccacgt 1260 1320 tetttaatag tggaetettg ticcaaactg gaacaacact caaccetate teggietatt cttttgattt ataagggatt ttgccgattt cggcctattg gttaaaaaat gagctgattt 1380 aacaaaaatt taacgcgaat tttaacaaaa tattaacgtt tacaatttca ggtggcactt 1440 1500 ttcggggaaa tgtgcgcgga acccctattt gtttattttt ctaaatacat tcaaatatgt 1560 atccgctcat gagacaataa ccctgataaa tgcttcaata atattgaaaa aggaagagta tgagtattca acatttccgt gtcgccctta ttcccttttt tgcggcattt tgccttcctg 1620 1680 tttttgctca cccagaaacg ctggtgaaag taaaagatgc tgaagatcag ttgggtgcac gagtgggtta catcgaactg gatctcaaca gCggtaagat ccttgagagt tttCgccccg 1740 aagaacgttt tocaatgatg agcactttta aagttotgot atgtggcgcg gtattatooc 1800 gtattgacgc cgggcaagag caactcggtc gccgcataca ctattctcag aatgacttgg 1860 1920 ttgagtactc accagtcaca gaaaagcatc ttacggatgg catgacagta agagaattat gcagtgctgc cataagcatg agtgataaca ctgcggccaa cttacttctg acaacgatcg 1980 2040 gaggaccgaa ggagctaacc gcttttttc acaacatggg ggatcatgta actcgccttg 2100 atcgttggga accggagctg aatgaagcca taccaaacga cgagcgtgac accacgatgc ctgtagcaat ggcaacaacg ttgcgcaaac tattaactgg cgaactactt actctagctt 2160 2220 cccggcaaca attaatagac tqqatqqagq cggataaagt tgcaggacca cttCtgcgct 2280 cggcccttcc ggctggctgg tttattgctg ataaatctgg agccggtgag cgtgggtctc gcggtatcat tgcagcactg gggccagatg gtaagccctc ccgtatcgta gttatctaca 2340 2400 cqacqqqcag tcagqcaact atggatqaac gaaatagaca gatcgctgag ataggtgcct cactgattaa gcattggtaa ctgtcagacc aagtttactc atatatactt tagattgatt 2460

caccgctacc agcggtggtt tgtttgccgg atcaagagct accaactctt tttccgaagg
taactggctt cagcagagcg cagataccaa atactgtcct tctagtgtag ccgtagttag
gccaccactt caagaactct gtagcaccgc ctacatacct cgctctgcta atcctgttac
Page 16

taaaacttca tiittaatti aaaaggatci aggigaagai cciiittgai aatcicaiga

ccaaaatccc ttaacgtgag ttitcgttcc actgagcgtc agaccccgta gaaaagatca aaggatcttc ttgagatcct ttittictgc gcgtaatctg ctgcttgcaa acaaaaaaac 2520 2580

2640

2700

2760

2820

cagtggctgc	tgccagtggc	gataagtcgt	gtcttaccgg	gttggactca	agacgatagt	2880
taccggataa	ggcgca <b>gcg</b> g	tcgggctgaa	cggggggttc	gtgcacacag	cccagcttgg	2940
agcgaacgac	ctacaccgaa	ctgagatacc	tacagcgtga	gcattgagaa	agcgccacgc	3000
ttcccgaagg	gagaaaggcg	gacaggtatc	cggtaagcgg	cagggtcgga	acaggagagc	3060
g <b>c</b> acgaggga	gcttccaggg	gggaacgcct	ggtatcttta	tagtcctgtc	gggtttcgcc	3120
acctctgact	tgagcgtcga	tttttgtgat	gctcgtcagg	ggggccgagc	ctatggaaaa	3180
acgccagcaa	cgcggccttt	ttacggttcc	tggccttttg	ctggcctttt	gctcacatgt	3240
tctttcctgc	gttatcccct	gattctgtgg	ataaccgtat	taccgccttt	gagtgagctg	3300
ataccgctcg	ccgcagccga	acgaccgagc	gcagcgagtc	agtgagcgag	gaagcggaag	3360
agcgcctgat	gcggtatttt	ctccttacgc	atctgtgcgg	tatttcacac	cgcatatatg	3420
gtgcactctc	agtacaatct	gctctgatgc	cgcatagtta	agccagtata	cactccgcta	3480
tcgctacgtg	actgcaagga	gatggcgccc	aacagtcccc	cggccacggg	gcctgccacc	3540
atacccacgc	cgaaacaagc	gctcatgagc	ccgaagtggc	gagcccgatc	ttccccatcg	3600
gtgatgtcgg	cgatataggc	gccagcaacc	gcacctgtgg	cgccggtgat	gccggccacg	3660
atgcgtccgg	cgtagaggat	cttgagatct	cgatccgcga	aat		3703

<210> 11 <211> 5576 <212> DNA

<213> pLSC52 plasmid full sequence

<400> taatacgact cactataggg agaccacaac ggtttccctc tagaaataat tttgtttaac 60 tttaagaagg agatatacat atggatgtga agctggtgga atctggagga ggcttagtgc 120 agcctggagg gtccctgaaa ctctcctgtg caacctctgg attcactttc agtgactatt 180 acatgtattg ggttcgccag actccagaga agaggctgga gtgggtcgca tacattagta 240 atgatgatag ttccgccgct tattcagaca ctgtaaaggg ccggttcacc atctccagag 300 acaatgccag gaacaccctc tacctgcaaa tgagccgtct gaagtctgag gacacagcca 360 420 tatattcctg tgcaagagga ctggcctggg gagcctggtt tgcttactgg ggccaaggga 480 ctctggtcac tgtctctgca gccaaaacga cacccccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac tccatggtga ccctgggatg cctggtcaag ggctatttcc 540 600 ctgagccagt gacagtgacc tggaactctg gatccctgtc cagcggtgtg cacaccttcc cagcigicci gcagicigae cictacacie igageagete agigacigie ecciccagea 660 cctggcccag cgagaccgtc acctgcaacg ttgcccaccc ggccagcagc accaaggtgg 720 780 acaagaaaat tgtgcccagg gattgtggtg agcccaaatc ttgtgacaaa actcacacat Page 17

# 4fpo~8~20~09K sequence.txt

gcccaccgtg	cccagcacct	gaactcctgg	ggggaccgtc	agtcttcctc	ttccccccaa	840
aacccaagga	caccctcatg	atctcccgga	cccctgaggt	cacatgcgtg	gtggtggacg	900
tgagccacga	agaccctgag	gtcaagttca	actggtacgt	ggacggcgtg	gaggtgcata	960
atgccaagac	aaagccgcgg	g <b>agg</b> agcagt	acaacagcac	gtaccgtgtg	gtcagcgtcc	1020
tcaccgtcct	gcaccaggac	tggctgaatg	gcaaggagta	caagtgcaag	gtctccaaca	1080
aagccctccc	agcccccatc	gagaaaacca	tctccaaagc	caaagggcag	cccgagaac	1140
cacaggtgta	caccctgccc	ccatcccggg	atgagctgac	caagaaccag	gtcagcctga	1200
cctgcctggt	caaaggcttc	tatcccagcg	acatcgccgt	ggagtgggag	agcaatgggc	1260
agccggagaa	caactacaag	accacgcctc	ccgtgctgga	ctccgacggc	tccttcttcc	1320
tctacagcaa	gctcaccgtg	gacaagagca	ggtggcagca	ggggaacgtc	ttctcatgct	1380
ccgtgatgca	tgaggctctg	cacaaccact	acacgcagaa	gagcctctcc	ctgtctccgg	1440
gtaaaggcgg	aggcggatcc	ggtggtggcg	gttctaaagc	ttccggaggt	cccgagggcg	1500
gcagcctggc	cgcgctgacc	gcgcaccagg	cttgccacct	gccgctggag	actttcaccc	1560
gtcatcgcca	gccgcgcggc	tgggaacaac	tggagcagtg	cggctatccg	gtgcagcggc	1620
tggtcgccct	ctacctggcg	gcgcggctgt	cgtggaacca	ggtcgaccag	gtgatccgca	1680
acgccctggc	cagccccggc	agcggcggcg	acctgggcga	agcgatccgc	gagcagccgg	1740
agcaggcccg	tctggccctg	accctggccg	ccgccgagag	cgagcgcttc	gtccggcagg	1800
gcaccggcaa	cgacgaggcc	ggcgcggcca	acggcccggc	ggacagcggc	gacgccctgc	1860
tggagcgcaa	ctatcccact	ggcgcggagt	tcctcggcga	cggcggcgac	gtcagcttca	1920
gcacccgcgg	cacgcagaac	tggacggtgg	agcggctgct	ccaggcgcac	cgccaactgg	1980
aggagcgcgg	ctatgtgttc	gtcggctacc	acggcacctt	cctcgaagcg	gcgcaaagca	2040
tcgtcttcgg	cggggtgcgc	gcgcgcagcc	aggacctcga	cgcgatctgg	cgcggtttct	2100
atatcgccgg	cgatccggcg	ctggcctacg	gctacgccca	ggaccaggaa	cccgacgcac	2160
gcggccggat	ccgcaacggt	gccctgctgc	gggtctatgt	gccgcgctcg	agcctgccgg	2220
gcttctaccg	caccagcctg	accctggccg	cgccggaggc	ggcgggcgag	gtcgaacggc	2280
tgatcggcca	tccgctgccg	ctgcgcctgg	acgccatcac	cggccccgag	gaggaaggcg	2340
ggcgcctgga	gaccattctc	ggctggccgc	tggccgagcg	caccgtggtg	attccctcgg	2400
cgatccccac	cgacccgcgc	aacgtcggcg	gcgacctcga	cccgtccagc	atccccgaca	2460
aggaacaggc	gatcagcgcc	ctgccggact	acgccagcca	gcccggcaaa	ccgccgcgcg	2520
aggacctgaa	gtaactgccg	cgaccggccg	gctcccttcg	caggagccgg	ccttctcggg	2580
gcctggccat	acatcaggtt	ttcctgatgc	cagcccaatc	gaatatgaat	tcggctgcta	2640

#### 4fpo-8-20-09K sequence.txt acaaagcccg aaaggaagct gagttggctg ctgccaccgc tgagcaataa ctagcataac 2700 2760 cccttgggcc tctaaacggg tcttgagggg ttttttgctg aaaggaggaa ctatatccgg atcggagatc aattctggcg taatagcgaa gaggcccgca ccgatcgccc ttcccaacag 2820 ttgcgtagcc tgaatggcga atgggacgcg ccctgtagcg gcgcattaag cgcggcgggt 2880 gtggtggtta cgcgcagcgt gaccgctaca cttgccagcg ccctagcgcc cgctcctttc 2940 gctttcttcc cttcctttct cgccacgttc gccggctttc cccgtcaagc tctaaatcgg 3000 3060 gggctccctt tagggttccg attragtgct ttacggcacc tcgaccccaa aaaacttgat tagggtgatg gttcacgtag tgggccatcg ccctgataga cggtttttcg ccctttgacg 3120 3180 ttggagtcca cgttctttaa tagtggactc ttgttccaaa ctggaacaac actcaaccct 3240 atotogqtot attottttga tttataaggg attttgccga tttcggccta ttggttaaaa aatgagctga tttaacaaaa atttaacgcg aattttaaca aaatattaac gtttacaatt 3300 tcaggtggca cttttcgggg aaatgtgcgc ggaaccccta tttgtttatt tttctaaata 3360 3420 cattcaaata tgtatccgct catgagacaa taaccctgat aaatgcttca ataatattga aaaaggaaga gtatgagtat tcaacatttc cgtgtcgccc ttattccctt ttttgcggca 3480 ttttgccttc ctgtttttgc tcacccagaa acgctggtga aagtaaaaga tgctgaagat 3540 3600 cagttqggtg cacgagtggg ttacatcgaa ctggatctca acagcggtaa gatccttgag 3660 agttttcgcc ccgaagaacg ttttccaatg atgagcactt ttaaagttct gctatgtggc gcggtattat cccgtattga cgccgggcaa gagcaactcg gtcgccgcat acactattct 3720 3780 cagaatgact tggttgagta ctcaccagtc acagaaaagc atcttacgga tggcatgaca gtaagagaat tatgcagtgc tgccataagc atgagtgata acactgcggc caacttactt 3840 ctgacaacga tcggaggacc gaaggagcta accgcttttt ttcacaacat gggggatcat 3900 3960 gtaactcgcc ttgatcgttg ggaaccggag ctgaatgaag ccataccaaa cgacgagcgt 4020 gacaccacga tgcctgtagc aatggcaaca acgttgcgca aactattaac tggcgaacta cttactctag cttcccggca acaattaata gactggatgg aggcggataa agttgcagga 4080 ccacttctgc gctcggccct tccggctggc tggtttattg ctgataaatc tggagccggt 4140 4200 gagcgtgggt ctcgcggtat cattgcagca ctggggccag atggtaagcc ctcccgtatc qtagttatct acacqacggg cagtcaggca actatggatg aacgaaatag acagatcgct 4260

gtagaaaaga tcaaaggatc ttcttgagat cctttttttc tgcgcgtaat ctgctgcttg caaacaaaaa aaccaccgct accagcggtg gtttgtttgc cggatcaaga gctaccaact Page 19

gagataggtg cctcactgat taagcattgg taactgtcag accaagttta ctcatatata ctttagattg atttaaaact tcatttttaa tttaaaagga tctaggtgaa gatccttttt

gataatetea tgaccaaaat cccttaacgt gagttttcgt tccactgagc gtcagacccc

4320

4380

4440

4500

4560

ctttttccga	aggtaactgg	cttcagcaga	gcgcagatac	caaatactgt	ccttctagtg	4620
tagccgtagt	taggccacca	cttcaagaac	tctgtagcac	cgcctacata	cctcgctctg	4680
ctaatcctgt	tac cagtggc	tgctgccagt	ggcgataagt	cgtgtcttac	cgggttggac	4740
tcaagacgat	agttaccgga	taaggcgcag	cggtcgggct	gaacgggggg	ttcgtgcaca	4800
cagcccagct	tggagcgaac	gacctacacc	gaactgagat	acctacagcg	tgagcattga	4860
gaaagcgcca	cgcttcccga	agggagaaag	gcggacaggt	atccggtaag	cggcagggtc	4920
ggaacaggag	agcgcacgag	ggagcttcca	ggggggaacg	cctggtatct	ttatagtcct	4980
gtcgggtttc	gccacctctg	acttgagcgt	cgatttttgt	gatgctcgtc	aggggggccg	5040
agcctatgga	aaaacgccag	caacgcggcc	tttttacggt	tcctggcctt	ttgctggcct	5100
tttgctcaca	tgttctttcc	tgcgttatcc	cctgattctg	tggataaccg	tattaccgcc	5160
tttgagtgag	ctgataccgc	tcgccgcagc	cgaacgaccg	agcgcagcga	gtcagtgagc	5220
gaggaagcgg	aagagcgcct	gatgcggtat	tttctcctta	cgcatctgtg	cggtatttca	5280
caccgcatat	atggtgcact	ctcagtacaa	tctgctctga	tgccgcatag	ttaagccagt	5340
atacactccg	ctatcgctac	gtgactgcaa	ggagatggcg	cccaacagtc	ccccggccac	5400
ggggcctgcc	accataccca	cgccgaaaca	agcgctcatg	agcccgaagt	ggcgagcccg	5460
atcttcccca	tcggtgatgt	cggcgatata	ggcgccagca	accgcacctg	tggcgccggt	5520
gatgccggcc	acgatgcgtc	cggcgtagag	gatcttgaga	tctcgatccg	cgaaat	5576

<210> 12 <211> 4263 <212> DNA

<213> pKL4 plasmid full sequence

<400> taatacqact cactataqqq aqaccacaac qqtttccctc taqaaataat tttqtttaac 60 tttaagaagg agatatacat atgcatcacc atcaccatca cgatgtgaag ctggtggaat 120 ctggaggagg cttagtgcag cctggagggt ccctgaaact ctcctgtgca acctctggat 180 tcactttcag tgactattac atgtattggg ttcgccagac tccagagaag aggctggagt 240 gggtcgcata cattagtaat gatgatagtt ccgccgctta ttcagacact gtaaagggcc 300 ggttcaccat ctccagagac aatgccagga acaccctcta cctgcaaatg agccgtctga 360 420 agtctgagga cacagccata tattcctgtg caagaggact ggcctgggga gcctggtttg cttactgggg ccaagggact ctggtcactg tctctgcagc caaaacgaca cccccatctg 480 tctatccact ggcccctgga tctgctgccc aaactaactc catggtgacc ctgggatgcc 540 600 tggtcaaggg ctatttccct gagccagtga cagtgacctg gaactctgga tccctgtcca gcggtgtgca caccttccca gctgtcctgc agtctgacct ctacactctg agcagctcag 660 Page 20

tgactgtccc	ctccagcacc	tggcccagcg	agaccgtcac	ctgcaacgtt	gcccacccgg	720
ccagcagcac	caaggtggac	aagaaaattg	tgcccaggga	ttgtggtgct	aagccttgca	780
tagctacaca	agcttccggt	ggtggcggat	ctggaggtgg	cggaagcgga	ggtcccgagg	840
tgacaggggg	aatggcaagc	aagtgggatc	agaagggtat	ggacattgcc	tatgaggagg	900
cggccttagg	ttacaaagag	ggtggtgttc	ctattggcgg	atgtcttatc	aataacaaag	960
acggaagtgt	tctcggtcgt	ggtcacaaca	tgagatttca	aaagggatcc	gccacactac	1020
at <b>g</b> gtgag <b>a</b> t	ctccactttg	gaaaactgtg	ggagattaga	gggcaaagtg	tacaaagata	1080
ccactttgta	tacgacgctg	tctccatgcg	acatgtgtac	aggtgccatc	atcatgtatg	1140
gtattccacg	ctgtgttgtc	ggtgagaacg	ttaatttcaa	aagtaagggc	gagaaatatt	1200
tacaaactag	aggtcacgag	gttgttgttg	ttgacgatga	gaggtgtaaa	aagatcatga	1260
aacaatttat	cgatgaaaga	cctcaggatt	ggtttgaaga	tattggtgag	taggaattcg	1320
gctgctaaca	aagcccgaaa	ggaagctgag	ttggctgctg	ccaccgctga	gcaataacta	1380
gcataacccc	ttgggcctct	aaacgggtct	tgaggggttt	tttgctgaaa	ggaggaacta	1440
tatccggatc	ggagatcaat	tctggcgtaa	tagcgaagag	gcccgcaccg	atcgcccttc	1500
ccaacagttg	cgtagcctga	atggcgaatg	ggacgcgccc	tgtagcggcg	cattaagcgc	1560
ggcgggtgtg	gtggttacgc	gcagcgtgac	cgctacactt	gccagcgccc	tagcgcccgc	1620
tcctttcgct	ttcttccctt	cctttctcgc	cacgttcgcc	ggctttcccc	gtcaagctct	1680
aaatcggggg	ctccctttag	ggttccgatt	tagtgcttta	cggcacctcg	accccaaaaa	1740
acttgattag	ggtgatggtt	cacgtagtgg	gccatcgccc	tgatagacgg	tttttcgccc	1800
tttgacgttg	gagtccacgt	tctttaatag	tggactcttg	ttccaaactg	gaacaacact	1860
caaccctatc	tcggtctatt	cttttgattt	ataagggatt	ttgccgattt	cggcctattg	1920
gttaaaaaaat	gagctgattt	aacaaaaatt	taacgcgaat	tttaacaaaa	tattaacgtt	1980
tacaatttca	ggtggcactt	ttcggggaaa	tgtgcgcgga	acccctattt	gtttattttt	2040
ctaaatacat	tcaaatatgt	atccgctcat	gagacaataa	ccctgataaa	tgcttcaata	2100
atattgaaaa	aggaagagta	tgagtattca	acatttccgt	gtcgccctta	ttcccttttt	2160
tgcggcattt	tgccttcctg	tttttgctca	cccagaaacg	ctggtgaaag	taaaagatgc	2220
tgaagatcag	ttgggtgcac	gagtgggtta	catcgaactg	gatctcaaca	gcggtaagat	2280
ccttgagagt	tttcgccccg	aagaacgttt	tccaatgatg	agcactttta	aagttctgct	2340
atgtggcgcg	gtattatccc	gtattgacgc	cgggcaagag	caactcggtc	gccgcataca	2400
ctattctcag	aatgacttgg	ttgagtactc	accagtcaca	gaaaagcatc	ttacggatgg	2460
catgacagta	agagaattat	gcagtgctgc	cataagcatg	agtgataaca	ctgcggccaa	2520

4fpo-8-20-09к sequence.txt cttacttctg acaacgatcg gaggaccgaa ggagctaacc gcttttttc acaaca	taga 2580
	323
ggatcatgta actogocttg atogttggga accggagotg aatgaagoca taccaa	-
cgagcgtgac accacgatgc ctgtagcaat ggcaacaacg ttgcgcaaac tattaa	
cgaactactt actctagctt cccggcaaca attaatagac tggatggagg cggata	_
tgcaggacca cttctgcgct cggcccttcc ggctggctgg tttattgctg ataaat	
agccggtgag cgtgggtctc gcggtatcat tgcagcactg gggccagatg gtaagc	cctc 2880
ccgtatcgta gttatctaca cgacgggcag tcaggcaact atggatgaac gaaata	gaca 2940
gatcgctgag ataggtgcct cactgattaa gcattggtaa ctgtcagacc aagttt	actc 3000
atatatactt tagattgatt taaaacttca tttttaattt aaaaggatct aggtga	agat 3060
cctttttgat aatctcatga ccaaaatccc ttaacgtgag ttttcgttcc actgag	cgtc 3120
agaccccgta gaaaagatca aaggatcttc ttgagatcct ttttttctgc gcgtaa	tctg 3180
ctgcttgcaa acaaaaaac caccgctacc agcggtggtt tgtttgccgg atcaaga	agct 3240
accaactctt tttccgaagg taactggctt cagcagagcg cagataccaa atactg	tcct 3300
tctagtgtag ccgtagttag gccaccactt caagaactct gtagcaccgc ctacata	acct 3360
cgctctgcta atcctgttac cagtggctgc tgccagtggc gataagtcgt gtcttac	ccgg 3420
gttggactca agacgatagt taccggataa ggcgcagcgg tcgggctgaa cgggggg	gttc 3480
gtgcacacag cccagcttgg agcgaacgac ctacaccgaa ctgagatacc tacagcg	gtga 3540
gcattgagaa agcgccacgc ttcccgaagg gagaaaggcg gacaggtatc cggtaag	gcgg 3600
cagggtcgga acaggagagc gcacgaggga gcttccaggg gggaacgcct ggtatct	tta 3660
tagtcctgtc gggtttcgcc acctctgact tgagcgtcga tttttgtgat gctcgtc	cagg 3720
ggggccgagc ctatggaaaa acgccagcaa cgcggccttt ttacggttcc tggcctt	ttg 3780
ctggcctttt gctcacatgt tctttcctgc gttatcccct gattctgtgg ataaccg	jtat 3840
taccgccttt gagtgagctg ataccgctcg ccgcagccga acgaccgagc gcagcga	agtc 3900
agtgagcgag gaagcggaag agcgcctgat gcggtatttt ctccttacgc atctgtg	gcgg 3960
tatttcacac cgcatatatg gtgcactctc agtacaatct gctctgatgc cgcatag	jtta 4020
agccagtata cactccgcta tcgctacgtg actgcaagga gatggcgccc aacagtc	ccc 4080
cggccacggg gcctgccacc atacccacgc cgaaacaagc gctcatgagc ccgaagt	ggc 41.40

aat

4200

4260 4263

gagcccgatc ttccccatcg gtgatgtcgg cgatataggc gccagcaacc gcacctgtgg

cgccggtgat gccggccacg atgcgtccgg cgtagaggat cttgagatct cgatccgcga

```
<212> PRT
<213> Artificial Sequence
<220>
<223> Extension peptide
<220>
<221> VARIANT
<222> (1)..(1)
<223> S or A
<220>
<221> VARIANT
<222> (6)..(6)
<223> S or A
<220>
<221> VARIANT
<222> (8)..(8)
<223> K or Q
<220>
<221> VARIANT
<222> (11)..(50)
<223> GGGGS is present or absent
<400> 13
Xaa Lys Pro Ser Ile Xaa Thr Xaa Ala Ser Gly Gly Gly Ser Gly
Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly 35 40 45
Gly Ser Gly Gly Pro Glu
```